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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,689	02/26/2002	Mark A. Barnes	Time.146.2	1535
29099	7590	08/25/2004	EXAMINER	
TIME DOMAIN CORPORATION 7057 OLD MADISON PIKE HUNTSVILLE, AL 35806			VANNUCCI, JAMES	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,689

Applicant(s)

BARNES ET AL.

Examiner

Jim Vannucci

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,8,13,17-19,22-32,35-53,55 and 58-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7,17-19 and 50-53 is/are allowed.
- 6) ☒ Claim(s) 1,8,13,22-24,32,35,55 and 57 is/are rejected.
- 7) ☒ Claim(s) 25-31,36-49 and 58-71 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8, 13, 22, 32 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al.(6,175,333) in view of Behr(3,618,104).

Claims 1, 8, 13, 22, 32 and 55, figure 9 of Smith discloses an array with a first row of receive elements(100), a first row of equal number transmit elements(101) and a second row of receive elements(100). Figure 13 discloses many such rows. In both figures 9 and 13 the receiving elements are aligned with respect to a corresponding transmitting element disposed in the transmitting row with a unique spacing. Smith does not disclose ultra wideband antenna elements.

Figure 1 of Behr discloses a ground plane(18) with an antenna element affixed to a first surface of the ground plane for a device that can emit and receive ultra wideband signals. The antenna element has a tab(40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the antenna element disclosed in Behr in the antenna array disclosed in Smith for wider band performance as disclosed in Behr.

3. Claims 23-24, 35 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Behr and further in view of Koslover(5,323,169).

Claims. 23-24, 35 and 57, Behr discloses a coaxial cable coupled to the antenna tab, not a waveguide coupled to the tab. Koslover discloses using a waveguide feed for an ultra wide band antenna for improved gain characteristics(abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a waveguide as disclosed in Koslover with the antenna element disclosed in Behr for improved gain characteristics.

Allowable Subject Matter

4. Claims 7, 17-19 and 50-53 are allowed.

5. Claims 25-31, 36-49 and 58-71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter.

The following limitations are primarily responsible for distinguishing these claims over the prior art.

Regarding claim 7, the limitation concerning the relative orientation of the elements to create a symmetric product response with respect to aspect angle; regarding claims 17-19, the limitation concerning the transmitting elements being laterally displaced as recited in claim 17; regarding claims 25-26, 36-49 and 58-71, the

limitations concerning the wave guides having unique lengths as recited in claims 25, 36 and 58; regarding claims 27-31, the limitation concerning the location and shape of the hollow region of the radome as recited in claim 27; and regarding claims 50-53, the limitation concerning receiving a control signal from a non corresponding element as recited in independent claim 50.

Response to Arguments

7. Applicant's arguments filed June 24, 2004 have been fully considered but they are not persuasive.

The antenna element disclosed in Behr is a type of monoloop antenna. Schantz defines a monoloop antenna as "generally planar"(col 6, line 4) and discloses a monoloop antenna(fig. 16) that is basically identical to the antenna disclosed in Behr.

The tab member(40) disclosed in Behr is in the shape of a tab and as such can be referred to as a tab.

Figure 13 of Smith discloses rows of transmitting elements(141) and rows of receiving elements(140). Since any element in the receive row can correspond to any element in the transmit row, receive and transmit elements can be grouped such that their inter-element spacing is unique. Figure 9 discloses an equal number of receive and transmit elements.

Behr discloses the recited antenna element above a ground plane and being fed through the ground plane by a coaxial cable coupled to a tab. Koslover discloses than a waveguide can be used as a feed for a wide band antenna in place of a coaxial cable.

Smith discloses the feed network parallel to and on the opposite side of the ground plane. Behr discloses the recited antenna element. Using the antenna disclosed in Behr in an array and feeding it with a waveguide in place of a coaxial cable is an obvious modification because it is common in the art to use a waveguide as a feed as recited.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jim Vannucci whose phone number is (571) 272-1820.

Any inquiry of a general nature or relating to the status of this application should

be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.


James Vannucci